

Notes on the Roxburghiaceæ, with a description of a new species of
STEMONA.—By D. PRAIN.

[Read 1st June, 1904.]

In 1892 a native collector, in the employment of the Royal Botanic Garden, sent from the Shan Hills a specimen of a *Stemona* which appeared to be a marked variety *S. Griffithiana* Kurz, a species first described by Griffith in his *Journal of Travels*, p. 149, but there left without a name, though Griffith indicated his belief that it represented a new genus of *Roxburghiaceæ*. The only salient character by which it differs from the other known species of *Stemona* is, however, its erect instead of climbing habit. Two years ago another plant collector brought with him from Lower Burma living examples of Griffith's original plant, which were found, on flowering, to agree exactly with the original description drawn up by Griffith, but to deviate in certain respects from the description given by Kurz in the Society's *Journal* for 1873.

During the present year Mr. Burkill has sent from Burma (Katha) yet another living plant which has flowered in the Botanic Garden side by side with the plant referred to above. Mr. Burkill's plant is found to agree absolutely with the Shan Hill specimen already alluded to, and to differ so markedly from the Griffithian one as to deserve to be regarded as a distinct species. The necessary description has been accordingly prepared and is now offered to the Society. The task of describing this new species has involved an examination of all the material of this natural order present in the Calcutta Herbarium and a consultation of various references to its species. Advantage has therefore been taken of the opportunity afforded by this study to draw up a key that may be of use in discriminating the various species; in the list that follows the key notes are given, enlarging the existing knowledge of their nomenclature and distribution as well as of the distribution of *Stichoneuron*, the only other Indian genus belonging to this order.

1. *STEMONA* LOUR.*Key to the species.*

Leaves whorled or opposite :—

Leaves sessile or shortly petioled, 3-4-nate, 3-veined ... *sessilifolia*.

Leaves long-petioled, more than 3-veined :—

Leaves 3-6-nate, 5-7-nerved *japonica*.

Leaves opposite at least below, sometimes alternate towards ends of branches :—

Leaves oblong-cordate, 7-13-veined, peduncles 1-2-flowered *tuberosa*.Leaves ovate-cordate, 7-11-veined; peduncles 2-3-flowered *moluccana*.

Leaves all alternate, long-petioled :—

Stems twining :—

Leaves ovate-cordate :—

Stems slender; peduncles 1-2-flowered; leaves 7-veined *jacaniva*.Stems stout; peduncles 3—more-flowered; leaves 13-15-veined *Curtisii*.

Leaves oblong :—

Leaves truncate at base, 7-10 in. long, 9-11-veined; stem stout *Kurzii*.Leaves cuneate at base, 3 in. long or less, 7-veined; stem slender *minor*.

Stems erect; leaves ovate-cordate; main-nerves 13-17 :—

Flowers greenish-white flushed with pink; perianth-lobes linear lanceolate, 1 in. long *Griffithiana*.Flowers brownish-red; perianth-lobes ovate-acute, '6 in. long *Burkillii*.1. *STEMONA* *SESSILIFOLIA* Miq. Prol. Fl. Jap. 386 (1867); Franch. & Savat. Enum. Pl. Japon. ii. 92.*Roxburghia sessilifolia* Miq. Ann. Mus. Bot. Lugd. Bat. ii. 211 (1866).

JAPAN.

Figured by Yokusai in *Somoko Zusets* ii. (2 ed.) t. 55.2. *STEMONA* *JAPONICA* Miq. Prol. Fl. Jap. 386 (1867); Franch. & Savat. Enum. Pl. Japon. ii. 92.*Roxburghia japonica* Blume, Enum. i. 9. (1827).

JAPAN.

Figured by Yokusai in *Somoko Zusets* ii. (2 ed.) t. 56.3. *STEMONA* *TUBEROSA* Lour. Flor. Cochin-Chin. 404 (1790); Flor. Brit. Ind. vi. 298.

Inhame maderasp. foliis binis pulchre venosis Petiv. Gazophyl. 50, t. 31, f. 6 (1702).

Ubiun polypoides album Rumph. Herb. Amboin. v. 364, t. 129 (1750).

Dioscorea oppositifolia Linn. Sp. Pl. 1032 in part (1753).

Roxburghia gloriosoides Jones in Roxb. Corom. Pl. i. 26, t. 32 (1795).

R. viridiflora Sm. Exot. Bot. i. 111. t. 57. (1804).

R. gloriosa Pers. Syn. 412 (1805).

R. Stemona Steud. Nomencl. (2 ed.) ii. 475 (1841).

Stemona gloriosoides Voigt Hort. Suburb. Calcutta. 650 (1845).

INDIA: Circars! INDO-CHINA: Assam! Silhet! Khasia! Jaintea Naga Hills! Chittagong! Siam (*vide* Kunth); Cochin-China (*vide* Loureiro). CHINA: Hupeh! Formosa! PHILIPPINES: Luzon! MOLUCCAS! (*vide* Rumphius).

Dioscorea oppositifolia Linn., Sp. Pl. 1032, is based on two plants one being the *Dioscorea foliis oppositis ovatis acuminatis* of the *Flor. Zeylan.*, p. 361, which still is accepted as *D. oppositifolia* Linn.; the other plant to which, in Linnaeus' work, the name gave cover, is the *Inhame maderasp. foliis binis pulchre venosis* of Petiver (*Gaz.* 50, t. 31, f. 6). The expression 'pulchre venosis' ought alone to have been sufficient to exclude Petiver's plant from association with the Ceylon one, and a cursory glance at the figure could not fail to show that the two did not agree. It, however, occurred to Mr. Burkill and myself, who have been of late engaged in studying the Indian *Dioscoreas*, that Petiver's plant might not be a *Dioscorea* at all. We therefore referred the subject to the Keeper of the Botanical Department, British Museum, in which institution the actual specimens from which Petiver's drawings were made are preserved. The result has been that our friend, Dr. Rendle, to whom the enquiry was entrusted, finds that the plant in Petiver's collection which Linnaeus has included in his *Dioscorea oppositifolia* is really *Stemona tuberosa*.

Occasionally, but very rarely, the leaves low down may be 3-nate, and occasionally those at the tips of branches are alternate, but this has not been noticed by the writer on any of the stout main-stems.

4. STEMONA MOLUCCANA Prain.

Ubiun polypoides rubrum Rumph. Herb. Amboin. v. 365 (1750).

Roxburghia moluccana Blume, Enum. i. 9 (1827); Kunth, Enum. v. 289.

MOLUCCAS: (*vide* Rumphius); Amboina, Barclay!

This species is very closely related to *S. tuberosa* but differs, in Barclay's specimen, in shape of leaf and style of inflorescence, in both which particulars it resembles *S. Curtissii*; that species, however, has smaller flowers and only alternate leaves: according to Rumphius the present plant has the leaves scattered towards the ends of the branches, opposite below.

5. *STEMONA JAVANICA*, Engl. Natürlich. Pflanzenfam. ii. v. 8, (1888).

Roxburghia gloriosoides Zoll. Plant. Jav. n. 2441 (1850); Hassk. Neuer Schluess. Herb. Amboin. 275 (1864); not of Jones.

R. javanica Kunth. Eunm. v. 288 (1850).

JAVA: Malang; in woods near the sea, *Zollinger*!

There is no doubt as to the validity of this species, which was proposed by Kunth and has been since accepted by Engler. Besides having thinner, smaller, and fewer-veined leaves than *S. tuberosa*, its flowers, which are noted by Zollinger in his field-note as dark-red, are about one-fifth the size of those of that species.

6. *STEMONA CURTISII* Hook. f. Flor. Brit. Ind. vi. 298 (1892).

MALAY PENINSULA: Penang; Waterfall, *Curtis*! Perak; Batu Gaja, *Scortechini*! Lumut, *Ridley*!

7. *STEMONA* sp., ♀ nov.

Roxburghia gloriosoides Kurz in Herb. Calcutta, hardly of Jones.

BURMA: Pegu; Laelo Choung, *Kurz*!

Leaves all alternate, oblong, 7-10 in. long, 3 in. wide, base truncate.

This has narrower and firmer leaves than is usual in *S. tuberosa*, though some of our examples of that plant have leaves very like those of the present one. In texture and also in shape its leaves accord best with those of *S. minor*, but they are much larger and the stem is much stouter than in that plant. But for the fact that the leaves on a stout main-stem are alternate, a character never met with in true *Stemona tuberosa*, the identification of Kurz might almost have been accepted. Meanwhile, however, this is one of the cases where it is safer to doubt the determination, and when fuller material is available it may be necessary to recognise this as a distinct species, *S. Kurzii*. For the present it must be accepted as, at least, a distinct variety of *S. tuberosa*.

8. *STEMONA MINOR* Hook. f. Flor. Brit. Ind. vi. 298 (1892).

Roxburghia gloriosoides Wight, Icon. t. 2061 (1853), not of Jones.

R. gloriosoides var. *minor* Thw. Eunm. Pl. Zeyl. 432 (1864).

S. INDIA: Malabar, *Wight*! CEYLON: Trincomali, *Glenie*.

The relationship of this to *S. tuberosa* is much the same as that of the preceding form; the most salient character being again that here all the leaves are alternate. This plant, however, further differs in being distinctly smaller in all its parts, and there is no doubt that Sir Joseph Hooker is amply justified in considering it a distinct species.

9. *STEMONA GRIFFITHIANA* Kurz in Journ. As. Soc. Beng. xlii. 2, 109 t. 10 (1873); Hook. f. Flor. Brit. Ind. vi. 299.

[*Gen. Nov.* near *Roxburghia*] Griff. Journ. Trav. 149 (1847).

INDO-CHINA: Burma; valley of the Irrawaddy from Ava to Pegu.

The description given by Kurz, which, so far as reference to coloration goes, has been followed in the *Flora of British India*, deviates somewhat from the original account written by Griffith in the field. Most of the specimens which Kurz had

before him when writing his description are in Herb. Calcutta now, but there is a note in Kurz's handwriting that indicates the removal of two of these subsequent to the preparation of his description. There is nothing to show that Kurz had the advantage of studying an original Griffithian specimen; and while most of the specimens named *Griffithiana* by Kurz himself belong to the plant that *does* accord exactly with the description drawn up by Griffith, one of Kurz's specimens appears to the writer to belong to the species next to be described. In any case the account that Kurz gives of the colour of the flower seems to suggest that Kurz must have seen, in the field, plants of both species. Though the two plants are very closely allied the writer is satisfied, after a careful examination of the two in the living state, and while flowering side by side, that they are distinct, and that the distinction is too marked to admit of their being deemed merely two varieties of one species. Both plants, it may be noted, begin to flower before the leaves are fully developed, but flowering does not cease, in either case, till some time after the leaves have attained their full size.

The diagnosis between the two plants is as follows:—

Internodes less than .5 in. long; perianth-segments 1 in. long or rather longer, linear-lanceolate, white with a greenish tinge externally and a pinkish tinge within; fleshy keel of filaments purple	<i>Griffithiana</i> .
Internodes more than 1 in. long, perianth-segments .5-6 in. long, ovate-lanceolate, greenish-red externally, dull red within; fleshy keel of filaments cobalt-blue	<i>Burkillii</i> .

10. *STEMONA BURKILLII* Prain.

BURMA: Shan Hills; *Abdul Hug!* Katha; *Burkill!*

Rootstock stout, hypogaeous. *Leaves* ovate, acute, slightly cordate. 3-4 in. long, 2.5-3 in. wide, 13-15-nerved; petioles 4-6 in. long, alternate, *Stems* slender, erect, 6-18 in. high; internodes 1 in. or more long. *Flowers* greenish-red externally, dull-red within, bracts .5 in. long, lanceolate; pedicels 1.5 in. long, strict; perianth-segments .5-6 in. long, ovate-lanceolate, acute. *Stamens* 4, filaments broad, dull-red, with sometimes one, sometimes 2 linear fleshy cobalt-blue keels on inner face; anthers yellow. *Fruit* not seen.

Though so nearly related to the foregoing species this plant differs in too many characters to be satisfactorily dealt with as a mere variety of *S. Griffithiana*. The roots, which were brought to Mr. Burkill's notice during a recent tour in Burma, in connection with the enquiry for species of *Dioscorea*, are known as *Tham-yan-nyet*. They are not eaten but are used as an insecticide.

2. *STICHONEURON* HOOK. F.

STICHONEURON MEMBRANACEUM Hook. f. Flor. Brit. Ind. vi. 299 (1892).

Add to localities of F.B.I.:—

MALAY PENINSULA: Perak; *Scortechini!*

